What is claimed is:

1. A compound of the formula:

wherein R_1 is a light-emitting moiety and R_2 is a bombesin-like peptide, fragment, derivative or analog thereof, and L is a linker moiety,

wherein n is 1 or 0, and (C-X) is selected from the group consisting of C=O, C=S, CH(OH), C=C=O, C=NH, CH_2, CH(OR), CH(NR), CH(R), CR_3R_4, and $C(OR_3)OR_4$ where R, R_3, and R_4 are alkyl moieties or substituted alkyl moieties, and

wherein $(L)_n$--R_2 is linked to (C-X) at L or at an amino acid position selected such that the compound exhibits substantial biological activity in the presence of a receptor having affinity for bombesin-like peptides, wherein said compound exhibits substantial biological activity in the presence of a receptor having affinity for bombesin-like peptides.

2. The compound of claim 1, wherein n=1 and R_2 is attached to R_1 via a linker moiety.

3. The compound of claim 1, wherein n=0 and R_2 is directly attached to R_1.

4. The compound of claim 2 wherein the linker moiety is selected from the group consisting of include g-aminobutyric acid, glycine, beta-alanine, aminopentanoic acid, aminohexanoic acid, aminohepanoic acid, aminooctanoic acid, aminononanoic acid, aminodecanoic acid, aminoundecanoic acid, and aminododecanoic acid.

5. The compound of claim 1 wherein R_2 is comprised of Val-Pro-Leu-Pro-Ala-Gly-Gly-Gly-Thr-Val-Leu-Thr-Lys-Met-Tyr-Pro-Arg-Gly-Asn-His-Trp-Ala-Val-Gly-His-Leu-Met (SEQ ID NO:2).

6. The compound of claim 1 wherein R_2 is comprised of Gly-Asn-Leu-Trp-Ala-Thr-Gly-His-Phe-Met (SEQ ID NO:3).

7. The compound of claim 1 wherein R_2 is comprised of Gly-Asn-His-Trp-Ala-Val-Gly-His-Leu-Met (SEQ ID NO:4).

8. The compound of claim 1 wherein R_2 is comprised of Dphe-Gly-Trp-Ala-Val-betaAla-His-Phe-Nle (SEQ ID NO:5).

9. The compound of claim 2, wherein R2 is comprised of (SEQ ID NO:5) and is attached to the linker γ-aminobutyric acid.

10. The compound of claim 1, wherein n=0 said amino acid position comprises the N-terminus of said bombesin-like peptide.

11. The compound of claim 10, wherein said N-terminus of said bombesin-like peptide is attached to (C-X) at αN-position.

12. The compound of claim 5, wherein said N-terminus amino acid residue is Val.

13. The compound of claim 6, wherein said N-terminus amino acid residue is Gly.

14. The compound of claim 7, wherein said N-terminus amino acid residue is Gly.

15. The compound of claim 8, wherein said N-terminus amino acid residue is Dphe.

16. The compound of claim 1, wherein R_1 is bound, through C, to a region of said R_2 peptide which is not involved in said biological activity.

17. The compound of claim 1, wherein said R_2 peptide binds to a human receptor.

18. The compound of claim 1, wherein said light-emitting moiety is selected from the group consisting of Bodipy, fluorescein, FITC, Texas red, phycoerythrin, rhodamine, carboxytetra-methylrhodamine, indopyras dyes, Cascade blue, coumarins, NBD, Lucifer Yellow, propidium iodide, dinitrophenol (DNP), lanthanide cryptates, lanthanide chelates, non-fluorescent dialdehydes which react with primary amines to form fluorescent isoindoles, ALEXA dyes, dansyl, fluorescamine and dabcyl chloride, IAEDANS, long lifetime dyes comprised of metal-ligand complexes (MLC) and derivatives thereof.

19. The compound of claim 1, wherein (C-X) is selected from the group consisting of C=O and C=S.

20. The compound of claim 1, wherein said compound is a pharmaceutically acceptable salt or complex thereof.

21. A method for labeling a receptor having an affinity for a bombesin-like peptide by contacting said receptor with the compound of claim 1.

22. A method for generating a biologically active compound of claim 1, comprising:

reacting R_1 and R_2 in an aqueous solution to form a mixture comprising the compound of claim 1 and secondary compounds having biological activities less than 0.25% of the biological activity of R_2-H in the presence of a receptor having affinity for bombesin-like peptides;

contacting the mixture with a receptor for bombesin-like peptides; and

isolating from said mixture a light-emitting compound exhibiting substantial biological activity in the presence of said bombesin-like peptide receptor.

23. The method of claim 22, wherein said isolating step comprises:

releasing said light emitting compound from said bombesin-like peptide receptor; and

isolating said light-emitting compound.

24. The method of claim 23, wherein said step of isolating said light-emitting compound includes selection by high pressure liquid chromatography.

25. A method for imaging cell receptor sites comprising contacting candidate cell receptor sites with a compound of claim 1, and detecting said bound compounds as an indication of said cell receptor sites.

26. A method of cell sorting comprising contacting a population of candidate cells with a compound of claim 1, and isolating cells bound to said compound.

27. A method of flow cytometry comprising contacting a population of cells with

a compound of claim 1 and detecting cells bearing receptors on their surfaces by detecting cells bound to said compound.